

REMARKS

Reconsideration of the application is respectfully requested for the following reasons:

1. Amendments to Specification, Drawings, and Claims

The objections to the specification have been addressed by amending the first paragraph of the detailed description to point out that the slope plane is element 123 shown in the drawings, and by amending the first complete paragraph on page 6 by changing “plane 6” to “plane 2”.

Fig. 5 has been amended for clarity to include reference numeral 126, referring to the bottom of the light guiding device 12 as described in the specification.

Finally, the objection to the claims has been addressed by amending claim 6 in the manner suggested by the Examiner, and by amending claim 5 to provide antecedent basis for the reflecting light recitation added to claim 6.

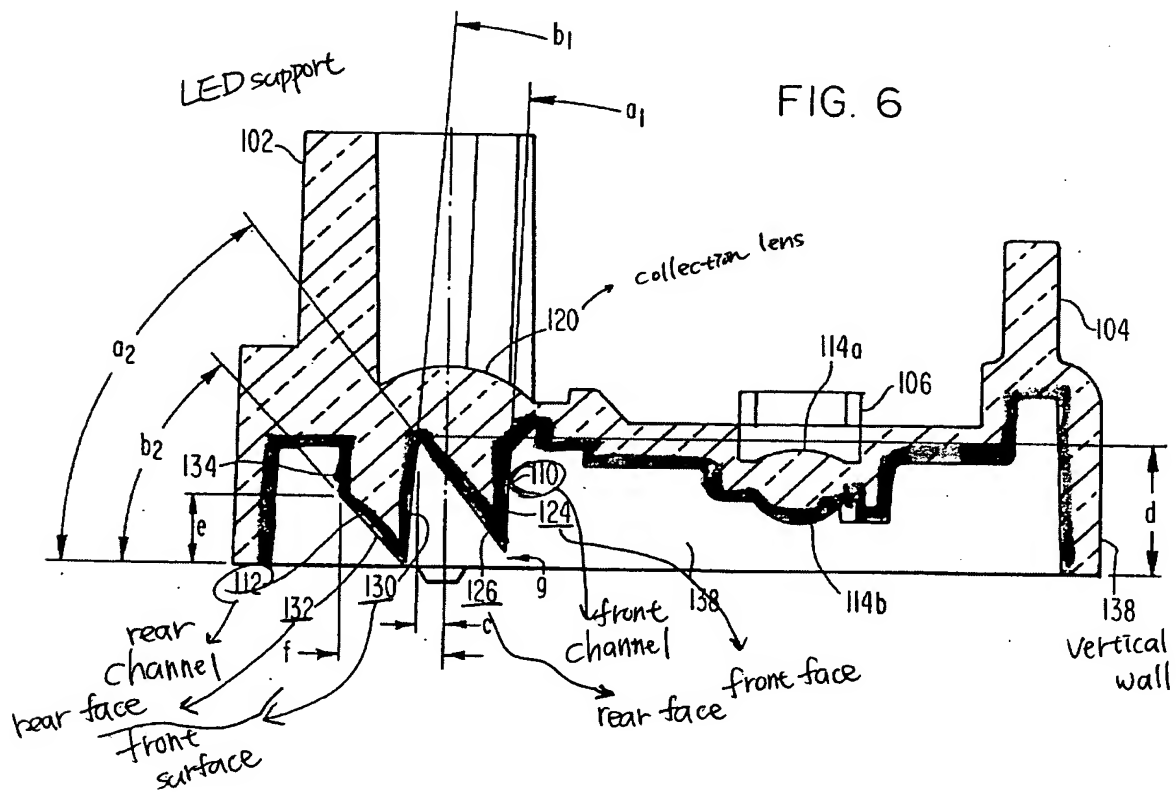
Because the changes are all formal in nature, it is respectfully submitted that the changes do not involve new matter.

2. Rejections of Claims 1 and 6-7 Under 35 USC §102(e) in view of U.S. Patent No. 7,009,598 (Bohn), Claims 2-4 Under 35 USC §103(a) in view of the Bohn Patent, and Claim 5 Under 35 USC §103(a) in view of the Bohn Patent and U.S. Patent Publication No. 2003/0201951 (Chin)

In response to the rejection, the applicant wants to first emphasize that the light guiding device of the present invention includes: a first lens part for focusing the incident light to project; a prism plane disposed obliquely towards the first lens part to totally reflect the incident light; and a slope plane arranged obliquely substantially towards the same direction as the prism plane, to slightly and downwardly refract the incident light after a total reflection in order to guide the incident light totally reflected by the prism plane into a cavity. As the slope plane is arranged obliquely (with respect to the reflective plane 2)

towards the same direction as the prism plane, the slope plane is able to lightly and downwardly refract the incident light to reach the cavity. Therefore even when the incident light is slightly deviated, it can still be guided to the cavity, so as to eliminate the limit that the advance direction of the incident light has to be in parallel with that of the reflective plane and that the incident light has to be completely vertical to the slope plane. Applicant respectfully submits that this inventive feature of having a slope plane arranged obliquely substantially towards the same direction as the prism plane is neither disclosed nor taught by the cited references.

Regarding the 35 U.S.C. § 102 rejection on claims 1, 6 and 7 of the present patent application, applicant would like to direct the Examiner's attention to Fig. 6 of Bohn, as following:



As shown in Fig. 6, there are at least “two” channels formed on the “light guiding device” of Bohn, which are denoted as “front channel 110” and “rear channel 112”, respectively. However, as shown in the figure below (FIG. 5 of the present invention), there is only “one” channel-like structure, having a front face (slope plane 123) and a rear face (prism plane 122) formed on the light guiding device. Moreover, the shape of the channels (front channel 110 and rear channel 112) of Bohn is different from that of the channel of the present application. In Bohn, the channels are shaped to have tips, resulting from an optical simulation, in order to enhance the efficiency of the light guiding device.

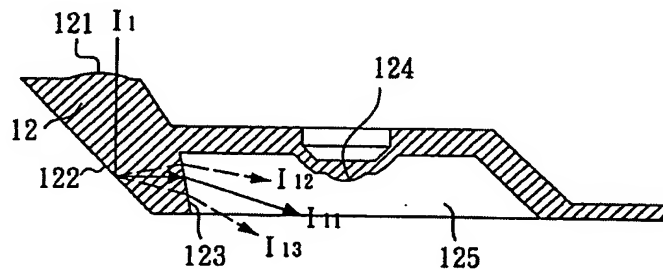


FIG. 5

Applicant would also like to direct the Examiner’s attention to column 6 lines 15-19 and Fig. 7 of Bohn, which describe a baffle 28 that defines boundaries for an angled path for light from channels 110 and 112 to target 34. As shown in the figure, it is known that the baffle 28 is not made of transparent substance and thus the baffle 28 is not used to refract the incident light, but to define boundaries so that light cannot pass through. Therefore, it is obvious that this baffle 28 is not equivalent to the slope plane of the present invention which is made of transparent material for refracting the incident light.

As a result, the structure of the light guiding device of the present patent application is different from that of Bohn, and withdrawal of the rejection of claims 1 and 6-7 under 35 U.S.C. § 102 is requested.

Regarding the 35 U.S.C. § 103 rejection on claims 2, 3 and 4, the applicant wants to emphasize that, in the present invention, the prism plane 122 forms an included angle of 45 degrees relative to the first lens part 121, and that such a 45-degree prism plane 122 is specifically designed based on the structure of the inventive light guiding device to make the incident light change the advance direction from vertical to parallel after a 90-degree ($45 \times 2 = 90$) total reflection. This “parallel” light can be easily directed into the cavity 125 by being slightly and downwardly refracted by the slope plane 123. However, Bohn does not disclose any 45-degree prism plane. Instead, Bohn only discloses a first prism plane of 52.5 degrees and a second prism plane of 47.5 degrees. These two prism planes are designed to have different angles for reflecting light of two channels to project on the same point (see FIG. 8), but not producing parallel light. As the design purpose of the prism planes of Bohn is intrinsically different from the present invention, applicant respectfully submits that those skilled in the art cannot easily anticipate and will not find obvious the 45-degree prism plane 122 of the light guiding device of the present patent application in view of the 52.5-degree or 47.5-degree prism plane of Bohn

Further, applicant would also like to direct the Examiner’s attention to Fig. 6 of Bohn again. As described above, there are two channels (front channel 110 and rear channel 112) formed on the “light guiding device” of Bohn, while there is only one channel formed on the light guiding device of the present application. Therefore, those skilled in the art cannot easily anticipate the structure of the light guiding device of the present patent application from the light guiding device of Bohn, and withdrawal of the rejection of claims 2-4 under 35 U.S.C. § 103 is requested.

Regarding the 35 U.S.C. § 103 rejection on claim 5 of the present patent application, the inventor will like to direct the Examiner’s attention to Fig. 1 of Chin.

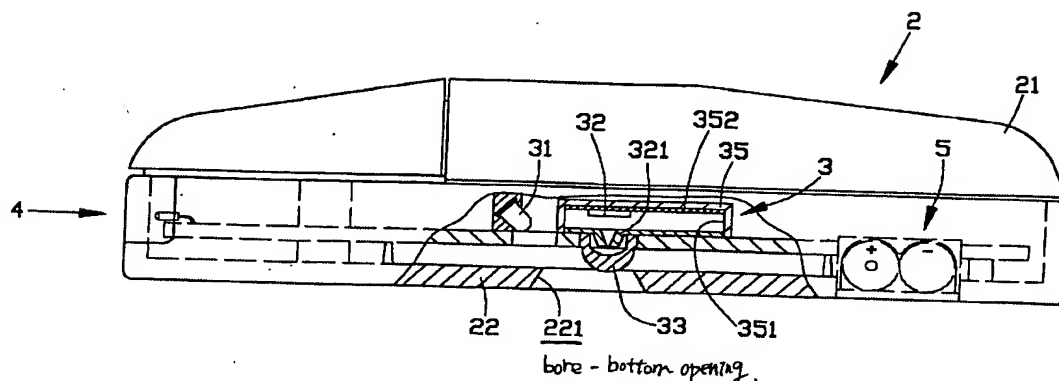


Fig. 1

As shown in the above figure, Chin only discloses the existence of the “bottom opening 221” of a computer mouse. In fact, the existence of the “bottom opening” is common in a computer mouse, to let the light arrive on the surface of a desk or a mouse pad. However, since one of ordinary skill in the art cannot easily derive the structure of the light guiding device of the present patent application from the light guiding device of Bohn, which has been explained above, those skilled in the art cannot easily derive the structure of the light guiding device of the present application from the combination of the light guiding device of Bohn and the “bottom opening” structure of a computer mouse of Chin, and withdrawal of the rejection of claim 5 under 35 USC §103(a) is respectfully requested.

Having thus overcome each of the rejections made in the Official Action, withdrawal of the rejections and expedited passage of the application to issue is requested.

Serial Number 10/687,633

Respectfully submitted,

BACON & THOMAS, PLLC

A handwritten signature in black ink, appearing to be 'B. Urcia', with a long horizontal flourish extending to the right.

By: BENJAMIN E. URCIA
Registration No. 33,805

Date: July 17, 2006

BACON & THOMAS, PLLC
625 Slaters Lane, 4th Floor
Alexandria, Virginia 22314

Telephone: (703) 683-0500

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